

Klára Kalousová (CURRICULUM VITAE)

Personal data

Born 29th November 1985 in Prague, Czech Republic
email klara.kalousova@jpl.nasa.gov

Education

10/2010 - 01/2015 PhD in Geophysics
Department of Geophysics, Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic
Laboratoire de Planétologie et Géodynamique de Nantes, Faculté des Sciences et des Techniques, Université de Nantes, France
Dynamics of icy satellites with a liquid phase
under the supervision of Ondřej Čadek, Gaël Choblet, and Gabriel Tobie
defended on 26th January 2015

10/2008 - 05/2010 Master in Geophysics
Department of Geophysics, Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic
Internal dynamics of Mars: a study based on gravitational and topographic data
under the supervision of Ondřej Čadek
defended on 25th May 2010, graduated with honors

10/2005 - 06/2008 Bachelor in Physics
Department of Geophysics, Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic
Solar system bodies: internal structure analysis based on topography and gravity data
under the supervision of Ondřej Čadek
defended on 23rd June 2008, graduated with honors

Professional experience

Oct. 2010 – Jan. 2012	Department of Geophysics, Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic, PhD student
Feb. 2012 – Aug. 2013	Laboratoire de Planétologie et Géodynamique de Nantes, Faculté des Sciences et des Techniques, Université de Nantes, France, PhD student
Sep. 2013 – Jan. 2015	Department of Geophysics, Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic, PhD student
Jan. 2015 – Apr. 2015	Department of Geophysics, Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic, research assistant
May 2015 – present	Jet Propulsion Laboratory – California Institute of Technology, Pasadena, USA, Postdoctoral scholar

Teaching experience

2014 Course on FEniCS for master students in geophysics, Department of Geophysics, Charles University in Prague

Grants and Projects

Jan. - Apr. 2015	Co-investigator, project 15-14263Y, <i>Generation of meltwater and transport processes in the ice shell of Europa</i> , Czech Science Foundation
2009 - 2010	Principal investigator, student project GAUK 60609, <i>Internal dynamics of Mars: a study based on gravitational and topographic data</i> , Grant agency of Charles University in Prague

Outreach activities

2013 - 2014	Regular participation at the Day of Open Doors, Charles University in Prague
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Main skills

Fields of expertise	Numerical modeling in geophysics and planetology, fluid mechanics, simulations of two-phase flow systems
Computing skills	Fortran90, Python, C, Matlab
FEM Software	FEniCS, Gmsh, Elmer, COMSOL
Visualisation	GMT, ParaView, Gnuplot
Other	LaTeX, Linux

Language skills

Czech	mother tongue
English	advanced (FCE Grade A - C1 CEFR level)
French	advanced (TFI 455 (comp. orale)/400 (comp. écrite) - B2 CEFR level)

Publications in journals

1. Souček, O., **K. Kalousová**, and O. Čadek (2014), Water transport in planetary ice shells by two-phase flow - a parametric study, *Geophys. Astro. Fluid*, **108**(6), 639--666, doi:10.1080/03091929.2014.969251.
2. **Kalousová, K.**, O. Souček, G. Tobie, G. Choblet, and O. Čadek (2014), Ice melting and downward transport of meltwater by two-phase flow in Europa's ice shell, *J. Geophys. Res. Planets*, **119**(3), 532--549, doi:10.1002/2013JE004563.
3. **Kalousová, K.**, O. Souček, and O. Čadek (2012), Two-phase Convection in Icy Satellites, *Acta Universitatis Carolinae*, **53**(1), 61--71.
4. **Kalousová, K.**, O. Souček, and O. Čadek (2012), Deformation of an elastic shell with variable thickness: a comparison of different methods, *Geophys. J. Int.*, **190**(2), 726--744, doi:10.1111/j.1365-246X.2012.05539.x.

Presentations at international meetings

1. **Kalousová, K.**, G. Tobie, O. Souček, G. Choblet, and O. Čadek, Water accumulation below Europa's strike-slip faults (oral presentation), European Planetary Science Congress, Nantes, France, 27 September – 2 October, 2015.

2. **Kalousová, K.**, G. Tobie, O. Souček, G. Choblet, and O. Čadek, Water production and transport in the ice shell of Europa (oral presentation), Workshop on the Habitability of Icy Worlds, Pasadena, USA, 5 – 7 February, 2014.
3. **Kalousová, K.**, O. Souček, G. Tobie, G. Choblet, and O. Čadek, Melting of ice and liquid water transport in the ice shell of Europa (poster), AGU Fall Meeting 2012, San Francisco, USA, 3 – 7 December, 2012.
4. **Kalousová, K.**, O. Souček, G. Tobie, G. Choblet, and O. Čadek, Water production and transport in the ice shell of Europa (oral presentation), European Planetary Science Congress, Madrid, Spain, 23 – 28 September, 2012.
5. **Kalousová, K.**, O. Souček, and O. Čadek, Global model of elastic lithosphere thickness on Mars (poster), European Planetary Science Congress, Rome, Italy, 19 – 24 September, 2010.
6. **Kalousová, K.**, O. Souček, and O. Čadek, Lithosphere thickness on Mars: results from geoid and topography inversion (poster), 11th International Workshop on Modeling of Mantle Convection and Lithospheric Dynamics, Braunwald, Switzerland, 28 June – 3 July, 2009.